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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,429	12/27/2001	Craig Schultz	42390.P13389	9072

7590 11/14/2005

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EXAMINER

PHAN, HANH

ART UNIT PAPER NUMBER

2638

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/033,429

Applicant(s)

SCHULTZ ET AL.

Examiner

Hanh Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4,7-10,14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7-10,14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 08/29/2005.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 4, 7-10, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (Pub No. US 2001/0021051 A1) in view of Lilienthal, II et al (US Patent No. 6,239,359).

Regarding claim 1, referring to Figures 2 and 3, Kim discloses a transmitter (Fig.

2) comprising:

an oscillator (i.e., VCO 146, Fig. 3);

a Phase Lock Loop (PLL)(i.e., PLL 140, Figs. 2 and 3) coupled to the oscillator (VCO 146)(paragraph [0066]);

a serializer (i.e., parallel/serial data converter 110, Fig. 2) coupled to receive a clock signal from the PLL (140) and to provide serial data; and

an electrical-to-optical converter (i.e., VCSEL 180, Fig. 2) coupled to the serializer (110) to convert the serial data to optical signals (paragraphs [0041], [0048], and [0066]).

Kim differs from claim 1 in that he fails to teach the oscillator enclosed in a metal shield and the metal shield is soldered to a ground ring on a printed circuit board, wherein the metal shield comprises one or more positioning protrusions perpendicular to the printed circuit board that enter into holes in the printed circuit board and one or more attachment protrusions parallel to the printed circuit board for soldering the metal shield to the ground ring. However, Lilienthal in US Patent No. 6,239,359 teaches an oscillator enclosed in a metal shield and the metal shield is soldered to a ground ring on a printed circuit board, wherein the metal shield comprises one or more positioning protrusions (i.e., positioning protrusions 44, Figs. 3-5) perpendicular to the printed circuit board that enter into holes in the printed circuit board and one or more attachment protrusions (i.e., flange 26, Figs. 3-5) parallel to the printed circuit board for soldering the metal shield to the ground ring (Figs. 3-11, see from col. 3, line 45 to col. 6, line 63). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the oscillator enclosed in a metal shield and the metal shield is soldered to a ground ring on a printed circuit board, wherein the metal shield comprises one or more positioning protrusions perpendicular to the printed circuit board that enter into holes in the printed circuit board and one or more attachment protrusions parallel to the printed circuit board for soldering the metal shield to the ground ring as taught by Lilienthal in the system of Kim. One of ordinary skill in the art would have been motivated to do this since Lilienthal suggests from column 3, line 45 to col. 6, line 63 that using such the oscillator enclosed in a metal shield and the metal shield is soldered to a ground ring on a printed circuit board, wherein the

metal shield comprises one or more positioning protrusions perpendicular to the printed circuited board that enter into holes in the printed circuit board and one or more attachment protrusions parallel to the printed circuit board for soldering the metal shield to the ground ring have advantage of allowing preventing an affection of the electromagnetic waves for the other circuit parts specifically a generation of radiation noise.

Regarding claims 3 and 10, the combination of Kim and Lilienthal teaches the ground ring is electrically coupled to one or more ground planes of the printed circuit board (see Figs. 3-11 of Lilienthal).

Regarding claim 4, the combination of Kim and Lilienthal teaches the metal shield is comprised at least partially of copper (col. 4, lines 38-40).

Regarding claims 7 and 15, Kim further teaches the oscillator is a voltage-controlled oscillator (Fig. 3).

Regarding claim 8, referring to Figures 2 and 3, Kim discloses a transceiver comprising:

a receiver (i.e., photodiode 190, Fig. 2); and

a transmitter (i.e., VCSEL 180, Fig. 2), the transmitter comprising an oscillator (146)(Fig. 3), a phase lock loop (140)(Fig. 2) coupled to the oscillator (see paragraphs [0041], [0048], and [0066]).

Kim differs from claim 8 in that he fails to teach a metal shield covering the oscillator and the metal shield is coupled to a ground ring on a printed circuit board, wherein the metal shield comprises one or more protrusions parallel to the ground ring

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for attaching the metal shield to the ground ring, and one or more positioning protrusions perpendicular to the ground ring that assist in aligning the metal shield to the printed circuit board. However, Lilienthal in US Patent No. 6,239,359 teaches a metal shield covering the oscillator and the metal shield is coupled to a ground ring on a printed circuit board, wherein the metal shield comprises one or more protrusions (i.e., flange 26, Figs. 3-5) parallel to the ground ring for attaching the metal shield to the ground ring, and one or more positioning protrusions (i.e., positioning protrusions 44, Figs. 3-5) perpendicular to the ground ring that assist in aligning the metal shield to the printed circuit board (Figs. 3-11, see from col. 3, line 45 to col. 6, line 63). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the metal shield covering the oscillator and the metal shield is coupled to a ground ring on a printed circuit board, wherein the metal shield comprises one or more protrusions parallel to the ground ring for attaching the metal shield to the ground ring, and one or more positioning protrusions perpendicular to the ground ring that assist in aligning the metal shield to the printed circuit board as taught by Lilienthal in the system of Kim. One of ordinary skill in the art would have been motivated to do this since Lilienthal suggests from column 3, line 45 to col. 6, line 63 that using such the metal shield covering the oscillator and the metal shield is coupled to a ground ring on a printed circuit board, wherein the metal shield comprises one or more protrusions parallel to the ground ring for attaching the metal shield to the ground ring, and one or more positioning protrusions perpendicular to the ground ring that assist in aligning the metal shield to the printed circuit board have advantage of allowing preventing an

affection of the electromagnetic waves for the other circuit parts specifically a generation of radiation noise.

Regarding claim 9, Kim further teaches the transmitter further comprises: a serializer (110)(Fig. 2) to receive a clock signal from the phase lock loop (140)(Fig. 2) and to provide serial data, and a converter (180)(Fig. 2) coupled to the serializer to convert the serial data to optical signals.

Regarding claim 14, the combination of Kim and Lilienthal further teaches an electrically-conductive gasket disposed between the metal shield and the ground ring (see Figs. 1-11 of Lilienthal).

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1, 3, 4, 7-10, 14 and 15 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye, can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

  
**HANH PHAN**  
**PRIMARY EXAMINER**